

**JPRS-UEA-85-035**

**9 October 1985**

# **USSR Report**

**ECONOMIC AFFAIRS**



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9 October 1985

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

VORONIN URGES QUICK ECONOMIC RESTRUCTURING TO AID PROGRESS

Moscow KRASNAYA ZVEZDA in Russian 4 Jul 85 pp 2-3

[Article by L. Voronin, first deputy chairman of USSR Gosplan:  
"The Main Lever of Intensification"]

[Text] The current activities of our party and people are centered on problems relating to the acceleration of the country's socioeconomic development on the basis of scientific and technological progress. These issues were discussed at the April (1985) plenum of the Central Committee and at a conference held in June by the CPSU Central Committee. The huge scale of the tasks laid down by the party and its Central Committee are truly impressive. The changes that will be implemented are of historic significance.

The work of the CPSU Central Committee conference on the acceleration of scientific and technological progress generated keen interest and a broad response in the country and the world. The entire nation lent its unanimous support to the realistic assessment of the situation in our economy made at the conference and the scientific concept there enunciated of accelerating the country's socioeconomic development and fundamentally transforming the material and technical base of the economy by incorporating the latest achievements of science, improving the system of management and the economic mechanism. Everybody agrees that the conference at the CPSU Central Committee is an important link in efforts to implement the decisions of the April (1985) plenum of the CPSU Central Committee and in preparations for the 27th congress of the party.

In his report to the conference General Secretary of the CPSU Central Committee M.S.Gorbachev gave a profound and comprehensive review of the main aspects of scientific and technological progress, spelled out a lucid and detailed program of action that would ensure a more rapid rate in the country's socioeconomic development. The party views the cardinal acceleration of scientific and technological progress as the basic link of all economic activity, as the main strategic lever in the intensification of the national economy, as a matter of the utmost urgency for the entire party and the entire nation.



The conference noted (and this is of principal significance) that in putting forward the task of accelerating socioeconomic development the Central Committee has in mind not just an increase in the growth rate of the national economy. What is needed is a new quality in our development, a rapid advance in strategically important areas. This major and supremely important goal cannot be achieved without accelerating scientific and technological progress, without the scientific and technological renovation of production. The one main factor that will allow our country to accelerate its socioeconomic development is a decisive turn toward intensification of the national economy on the basis of scientific and technological progress.

The issue boils down to this: in our scientific and technological progress we must switch from the evolutionary methods used up to now (improving existing technologies, partial modernization of machines and equipment) to revolutionary changes, to fundamentally new technological systems, to the latest-generation machines that ensure the highest possible efficiency. It is necessary to retool every sector of the national economy on the basis of the most modern achievements of science and technology.

The ways and means to implement this crucially important assignment were precisely defined by comrade M.S.Gorbachev in his report: realigning our investment and structural policy, technical reconstruction of the enterprises, rapid development of machine building, especially the machine tool and instrument making industries, liquidating shortcomings in capital construction, turning science decisively around to meet the needs of production and production to meet the needs of science, improving the quality of planning and administration.

The crucially important task of today is to organize mass production of new generations of machines capable of achieving a manifold increase in the productivity of labor, of opening the way to the automation of every phase of the production process.

And, naturally, it is necessary to effect a psychological turnaround in public thinking to a direction consistent with the spirit of the new demands of the times: each and every person must come to an awareness, to a deep understanding of the vital need for the acceleration of scientific and technological progress.

Each and every person must come to realize that the acceleration of socioeconomic progress is grounded in the further improvement of the quality of life and working conditions of the Soviet people, in the all-round perfection of the socialist way of life, the maintenance of the country's defenses at the proper level and the strengthening of socialism's position in the international arena.

A special role in the intensification of production is assigned to the twelfth five-year plan. It is called upon to consolidate the progress achieved in the last several years and to turn the acceleration of the growth rate in socioeconomic progress into a stable and long-lasting process. In the twelfth five-year plan a reduction in the growth rate of primary resources is to be accompanied by a rise in the tempo of economic growth.

The comprehensive intensification of the national economy based on the latest and newest achievements of science and technology—such is the end goal of the draft master plan outlining the principal directions of the USSR's social and economic development in the twelfth five-year plan and for the period up to the year 2000. In drawing up this plan Gosplan SSSR was guided by the Complex Program for the scientific and technological progress of the USSR for 1986-2005 which, as is known, was developed by leading scientists, by more than 250 of the country's major scientific research institutes. It is precisely the broad assimilation and effective use of the achievements of science and technology that are intended to serve as the instrument for resolving such important problems of intensification as raising the productivity of labor more than twofold, while cutting metal consumption in production by about one-half cutting energy consumption by two-sevenths, and sharply reducing the proportion of manual labor.

In preparing the draft of the Principal Directions which are currently being finalized great care was devoted to selecting the areas of scientific and technological progress that promise the greatest effect in the national economy as a whole. Singled out were such crucial strategic areas as the perfection of technology to achieve a steep reduction in the relative input of production resources, a radical improvement in the quality of industrial output, the ecological purity of production; automation of production using modern reliable computer hardware, primarily microprocessors, intensive saturation of production with the means of automation. It is in these top-priority areas that scientific and project-design organizations are concentrating their efforts.

To actively further the renovation of production the plan envisages the broad introduction of automated design systems, flexible automated production units, machine tools with digital program control, processing centers, robotized complexes. It is estimated that all this will free about one million workers.

In the long term raising the effectiveness of production will hinge on the use of fundamentally new technologies—laser, plasma, radiation, membrane and biotechnology. It is these processes that will determine the look of production in the future, ensuring a manifold increase in the productivity of labor and the quality of the goods produced.

The prime task of the present time is to introduce resource-saving technology on a grand scale: this is 2-3 times less costly than

expanding the mining of fuel and raw materials. It has been estimated that a reduction of only 1 percent in the input of fuel, energy, raw and industrial materials into production would translate into an increase in the national income of almost 7 billion rubles.

Success in the matter of accelerating the socioeconomic development of the country demands rapid reorganization of the production apparatus and, by the same token, a change in investment policy, the channeling of capital investment funds first and foremost into the technical retooling and reconstruction of functioning production units. There is no denying the fact that USSR Gosplan, the ministries and associations did not always lend this issue the attention it deserves. Not duly appreciated was the urgent need to retire aged and unproductive machinery whose maintenance involved substantial costs in terms of labor, raw materials, fuel. The aging of our fixed capital has become a serious impediment to technological progress and improvement of product quality.

The attrition rate for obsolete fixed capital, especially its active part, must be doubled. This requirement is present in the draft of the Principal Directions. The twelfth five-year plan will see the appearance of a new tendency — the rejuvenation of fixed capital, above all in machine building. The share of all capital investment allocated for technical retooling and reconstruction, which is nearly twice as effective as new construction, will greatly increase by 1990 and will continue to grow thereafter.

To ensure the acceleration of scientific and technological progress priority development is envisaged for the machine building industries. In the 12th five-year plan the growth rate for capital investment therein will be significantly higher than for the national economy as a whole. One thing, however, must be kept in mind: the policy of speeding up the renovation of fixed production capital is economically justified only on one basic condition — the machine building industry must ensure the production of equipment and machine systems whose productivity will grow much faster than their price and production costs.

In the framework of the machine building complex priority in development will be given to those sectors which today rank as carriers of scientific and technological progress ensuring technical and technological retooling on a qualitatively new basis, and above all to the machine building industry itself. This includes machine tool building, instrument making, the electronic and electrotechnical industries. The output of these sectors is to increase severalfold by the year 2000.

At the present time measures are being worked out in the machine building development process designed to speed up the assimilation of machines with characteristics that stand up to the topmost



world levels, to increase the growth rate of machine building by 50-100 percent already in the twelfth five-year plan period.

The new course aimed at greatly speeding up the renovation of machines and equipment and their broad introduction into the national economy obliges the machine-building ministries, associations and enterprises to select the newest specimens thereof with greater care and greater strictness, to improve the technical discipline of production, otherwise these efforts will not yield the necessary results. Not long ago we visited the Cheboksary industrial tractor enterprise. The plant was under construction for 10 years at a huge cost in public resources. But because the machine put into production was imperfect in design and because of the crude technology at the plant's disposal an important state assignment - to provide industry and construction with a highly productive and reliable tractor - was not carried out. Some of the blame must be put on the ministry and Gosplan SSSR. We are drawing very serious conclusions from this episode.

Implementation of the task of accelerating the socioeconomic development of the country demands a qualitative improvement in the planning and administration of scientific and technological progress. In keeping with directives laid down by the party Central Committee and the government, USSR Gosplan together with a number of ministries are presently engaged in a persistent effort to find solutions to these issues. We see our main objective in the elevation of the role of the state plan as an active factor in the transition to fundamentally new machines and technology.

Also aimed at speeding up scientific and technological progress is the ongoing reorganization of the economic mechanism. The goal is to make the economy receptive to scientific and technological progress.

At the present time we are drawing up proposals to further expand and deepen the large-scale economic experiment now in progress. These are aimed at stimulating scientific and technological progress in every possible way. Envisaged, for example, are clear-cut rules for computing production-association and enterprise development funds using stable norms that would remain unchanged for five years. There is to be a significant expansion of the right of enterprises and associations to utilize this fund to ready the production of new machinery and introduce progressive technology, as well as to make up for the very high cost of turning out new products in their assimilation period. The provision of credits for projects undertaken at this fund's expense will be simplified. Top priority will be given to the allocation of material resources for the fund's needs. In a word, this fund is being assigned a truly decisive role in the technical retooling of production.



The role of prices in the restructuring of output and the improvement of its technical characteristics is to be strengthened. To this end it is planned to impose a substantial surcharge on the wholesale price of products awarded top quality status. Conversely, in order to make it unprofitable for enterprises to turn out obsolete and inefficient products there will be a markdown on their wholesale price. Conditions will thus be created wherein enterprises will find it well worth their while to produce and incorporate new machines, turn out products of the finest quality and strive to attain the highest possible productivity of labor.

To surmount all the obstacles in the way of incorporating the achievements of science and technology into production and thereby to accelerate the tempo of socioeconomic development is no easy task. There can be no doubt, though, that the problem will be solved, just as in their own time such momentous tasks as the industrialization of the country, the collectivization of agriculture and the cultural revolution were all implemented under the leadership of the party. That such will be the case is guaranteed by the unanimous support given the CPSU line by the whole nation, by the Soviet people's firm resolve to translate the directives of the party into reality.

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CSO: 1820/217

## INVESTMENT, PRICES, BUDGET AND FINANCES

### ECONOMIST REVIEWS CURRENT WHOLESALE PRICE POLICY

Moscow FINANSY SSSR in Russian No 6, Jun 85 pp 47-51

[Article by I. K. Salimzhanov, doctor of economic sciences: "Questions in Developing Wholesale Prices"]

[Text] The plan for economic and social development of the USSR for the 11th Five-Year Plan was developed with consideration for the wholesale prices established primarily in 1967, to which partial corrections were introduced in the subsequent period. In connection with the fact that these prices in their significant part ceased to correspond to the changed conditions of production and sale, as well as to the proportions which had arisen in the national economy, the need for their review became apparent.

Effective 1 January 1982, new wholesale prices and tariffs in industry were placed into effect. The cost indicators of the five-year plan for 1981-1985 were re-computed on their bases, as well as the effective economic standards and the state budget, and changes were introduced into the financial relations of the budget with sectors of the national economy.

Wholesale prices for industrial production and rates for energy were increased on the whole by 65 billion rubles, or by 11 percent. Prices increased in the most significant proportions in the fuel-raw material sectors of industry: in the petroleum industry--by 2.2 times, in coal--by 44 percent, in gas--22, in ferrous metallurgy--23, in non-ferrous metallurgy--37, in the lumber industry--34, in the cellulose-paper industry--30, and in the building materials industry--22 percent. Their level remained significantly unchanged in machine building and chemical industries, although there were serious shifts in prices for individual types of products in these sectors. In machine tool building, instrument building, and the electronics and radio industry wholesale prices were reduced by 20-25 percent. At the same time, prices for metal-consumptive production in heavy, power, transport, chemical, and agricultural machine building increased by 5-10 percent. In light industry the wholesale prices were increased by 12 percent, in the food industry--by 4.4, and in the fishing industry--by 18 percent.

The summary of work in industry for 1983 confirmed the fact that the new wholesale prices and rates on the whole correspond to the conditions for production and sale of products which have arisen. The profitability of industry in the

above-mentioned year comprised 12.4 percent of the production funds and 16 percent of the production cost.

Computations of the dynamics of production cost for industrial production in the years of the forthcoming five-year plan allow us to conclude that the wholesale prices currently in effect may be retained for the 12th Five-Year Plan without significant or massive review. The only exception is the coal industry. Despite the adopted increase in wholesale prices for coal, the sector was already operating at a loss in 1982. This was caused by an increase in the rates and wages paid to workers, a deterioration in the mining-geological conditions for coal extraction, an increase in the mining depth, the inclusion of high-ash content strata into exploitation, an increase in capital investments for reproduction of fixed industrial capital and requirements for the creation of safe working conditions, as well as by certain other reasons.

According to the computations of competent organs, losses in the industrial activity of the USSR Ministry of the Coal Industry in 1984 comprised around 1 billion rubles. By 1985, as a result of the above-mentioned reasons, the production cost of a ton of coal increased by about 13-14 percent as compared with the 1980 level (under comparable conditions), while its average wholesale price dropped by 9 percent. From 1985 through 1990 the production cost of one ton of coal must, in our opinion, increase, while the average wholesale price must drop due to increased ash content and reduced quality of the coal.

If we increase the wholesale prices for coal, this will entail (in order to retain the developed relationship of prices for various types of fuel) an increase in the prices on gas and fuel oil, for which there will be retained a high level of profitability in the forthcoming five-year plan even without this. The growth in expenditures for fuel would trigger a chain reaction to increase the rates for electric power and thermal energy and the wholesale prices for products in ferrous and non-ferrous metallurgy, and with consideration for this--also for the products of numerous other sectors of industry. Thus, the elimination of losses in coal extraction would cause a need for a general review of the wholesale prices and rates in industry, construction, transport and agriculture. At the present time, this is hardly economically justified.

In order to create normal cost accounting conditions for the operation of enterprises and associations in the coal industry and to achieve stability in the entire system of wholesale prices, the decision was made to introduce cost accounting prices for coal effective 1 January 1986 for accounting with coal extracting and enriching enterprises, which will provide compensation of the plan expenditures for the extraction and enrichment of coals and for obtaining the necessary profit. The accounting prices for coal and products of coal enrichment are set for the USSR Ministry of the Coal Industry in the plans for economic and social development of the USSR for 1986-1990. For the UkSSR Ministry of the Coal Industry and the all-union industrial and production association of union appurtenance they are set by the USSR Ministry of the Coal Industry. The effective wholesale prices for coal and products of coal enrichment will be retained for consumers. The difference between the



average accounting price and the wholesale price for coal and products of coal enrichment will be reimbursed from the state budget to the USSR Ministry of the Coal Industry.

For the other, primarily machine building, ministries, wholesale prices will be clarified for individual types of products. On the whole, for products of machine building, normal cost accounting conditions will be ensured within the course of the 12th Five-Year Plan for the production-economic management activity of associations and enterprises in the industry. Certain changes will also be introduced into the wholesale prices for individual types of industrial production of republic nomenclature.

It is considered expedient to limit ourselves to minimal changes in prices. This refers to refraining from an increase in effective prices for products whose losses or low profitability are associated with unsatisfactory application of production capacities, raw goods and materials, shortcomings in organization of production, or non-fulfillment of the production plan and the tasks for introduction of new engineering and technology.

The corrections to wholesale prices were introduced effective 1 January 1985, and at the same time the changes in the plan for 1985 associated with these revisions were taken into account, as 1985 is the base year for development of the new five-year plan. This will make it possible to develop a five-year plan for 1986-1990 in 1985 prices and to ensure the stability of cost indicators in the plan throughout the course of the 12th Five-Year Plan.

For further improvement in the system of wholesale prices, there are plans to begin preparations for their overall sequential review. This is necessitated by those changes in the proportions of the development of the national economy which will take place in the 12th Five-Year Plan, as well as by the need for eliminating a number of shortcomings which have become apparent in the system of prices and its restructuring based on the requirements of the June (1983) Plenum of the CPSU Central Committee on the development of scientifically substantiated principles of price formation.

Under current conditions, the problem of bringing prices closer to the socially necessary labor expenditures takes on important significance, as does that of utilizing prices as an instrument of commensuration of expenditures and results of production and determining the economic effectiveness of production and means of its intensification. A significant contribution to solving the problems of more complete reflection of social labor expenditures in prices was made during the review of wholesale prices effective 1 January 1982. The contributions for social security were increased, as well as the rates of deductions for geological survey operations and trustee payments. Payment for water was introduced. Altogether, these changes increased the production expenditures by almost 6 billion rubles. However, the production cost of the products, which is the accounting basis for prices, still does not include the part of state expenditures, which does not always give a precise understanding of the effectiveness of individual economic measures. Price development is also necessary for improving methods of computing net income included in the prices, and for overcoming the differences which sometimes arise without justification in the level of profitability of various types of products.



Other current problems include questions on integrating the development of long-term plans and prices, preparing them according to a unified methodological basis, and ensuring greater coordination and mutual connection in the dynamics and levels of various types of prices: wholesale, retail and purchase. The mutually interrelated regulation of all types of prices, as a rule, is possible only with the condition of their simultaneous review in all sectors of the economy. Up to the present, price review is being implemented in individual sectors at different times, which has led to a reduction in profitability in those sectors where the prices remained unchanged, an increase in subsidies, and other negative consequences. Thus, the last overall change in wholesale prices in industry took place in 1982, in purchase prices—in 1983, and in estimated prices—in 1984. Measures must also be developed for the improvement of transport rates. From here it follows that in practice these measures can be implemented only after 1984. The performance of all this work, which signifies a radical improvement in the entire system of prices, obviously requires thorough theoretical and methodological preparation.

The basis for further development of prices and price formation for products in machine building has been the resolution on measures for accelerating scientific-technical progress in the national economy. It determined that an important factor in stimulating scientific-technical progress is the increased role of wholesale prices and certification of industrial production in increasing the output of machines, equipment and instruments of a high technical-economic level and quality, as well as the timely removal of outdated technology from production.

Recently in the sphere of price formation for these products, a series of major measures have been implemented for improving definition of the level and order of determination of wholesale prices. These measures are directed at the creation of more favorable economic conditions for enterprises assimilating new highly effective technology, as well as at increasing the interest of consumers in its most rational application. At the same time, the effect of economic sanctions has been increased by means of using deductions from wholesale prices for outdated products.

The development of price formation is expressed primarily in the fact that the effectiveness and consumer properties of new technology are considered in determining prices, along with the expenditures for production of the product. An order has been established for this according to which not only the projected production cost is determined already at the design stage of new production, but also the economic effectiveness from its production and application. If it is determined that the projected production cost does not ensure economic effectiveness of the product being developed, then the project design organization must review the design decision of the product for the purpose of reducing its production cost.

Another new factor is that wholesale prices are established with consideration for reimbursement of expenditures for manufacture of new production in the first year of its assimilation and for ensuring a profitability which is no lower than that throughout the enterprise as a whole or for analogous

substituted products. Before, prices were determined on the basis of expenditures in the second or third years of series manufacture. Moreover, in order to stimulate the assimilation of new technology, incentive mark-ups are set for wholesale prices for effectiveness and quality. As a result, for highly effective production the profitability is determined in an amount of up to 30 percent of the production cost (without taking into account the mark-ups). Thus, for the RK-12/14F heat-recovery boiler assimilated in 1984 the expenditures in the first year of manufacture comprised 137,000 rubles according to the calculations of the enterprise, while the wholesale price was confirmed at 175,000 rubles, i.e. the enterprise profit comprised 27.7 percent of the expenditures. For the model 5A353PF2 semi-automatic horizontal slotting-milling machine with digital program device assimilated in the same year the profit was equal to 28.6 percent, for the SM40F2.80.01 industrial robot it was 18.7 percent, and for screw feed devices it was 23 percent of the expenditures in the first year of assimilation, etc.

A new order of stimulating the production of current technology with the lowest expenditures has also been established. According to this order, all the savings in production cost due to reduction in material and labor consumption is considered in the price of the new product as additional profit for the manufacturing enterprise.

In 1984, the USSR Gosstandart [USSR State Committee for Standards], the GKNT [USSR Council of Ministers State Committee on Science and Technology], the USSR Gosplan [State Planning Committee] and the USSR Goskomsen [State Committee on Prices] ratified a new order for certification of industrial production. It introduces principle changes into the evaluation of product quality. Starting in 1984, certification is performed not according to three, but according to two quality categories--highest and first. First quality production is only that which by its technical-economic indicators is at the level of the best world achievements or which surpasses this level. Representatives of GKNT are named to head up state certification commissions on production having primary national economic significance. These commissions will evaluate the correspondence of machines, equipment and instruments to leading achievements in science, technology and world technical progress.

Also, methodological directives have been introduced for improving the order of determining incentive mark-ups for highly effective technology of the highest quality category and discounts from wholesale prices for outdated production. These are based on requirements for the evaluation of the technical level of products as provided for by the new directives on certification. At the present time, incentive mark-ups in the amount of up to 30 percent of the wholesale price are being established for new and highly effective products which are comparable in their parameters to the best domestic and foreign examples. The new methodology provides that the mark-up may consider up to 50 percent of the economic effect, and for products whose production is based on developments stemming from discoveries or inventions and manufactured in place of import goods, as well as for industrial robots--up to 70 percent.

Also significant is the fact that more consideration is given to the interests of the consumer in determining wholesale prices and incentive mark-ups. The level of prices and the economic effectiveness, as well as the mark-ups, are coordinated with the primary consumer of the appropriate machines, equipment and instruments. From 30 to 50 percent of the economic effect from the application of new technology remains with the consumer in establishing the level of wholesale prices and mark-ups to them. This stimulates an economic interest on the part of the consumer for the application of this technology.

An analogous order of price formation has also been established for newly assimilated products intended to replace import goods. The wholesale prices for such production are determined with consideration of full reimbursement of expenditures for its production and plan profits. In this case, the level of world prices (invoice price) for the indicated products is taken into consideration. Incentive mark-ups for effectiveness and quality are also established for wholesale prices on this technology. However, for some types of new technology manufactured to replace imported goods, the initial expenditures are often higher than the world prices. For such technology the wholesale prices are set higher than the world level for a period of 2 years with consideration for reimbursement of the increased expenditures.

In 1983, Goskomtsen approved 3,200 incentive mark-ups to wholesale prices on new machines, equipment and instruments, and extended 2,800 mark-ups in connection with certification of production according to the highest quality category. The total sum of mark-ups for the year comprised around 500 million rubles. As the experience of their application has shown, they are an efficient means of stimulating the output of new and effective production, since the prevailing portion of the sum of mark-ups is directed to the economic incentive funds for developers and manufacturers of the technology. This is why the sphere of application of incentive mark-ups should be steadily increased and the mechanism of their action improved.

We must note that incentive mark-ups for effectiveness and quality, unlike the profits included in the wholesale prices, have a strictly purposeful function. They are intended for stimulating the development of new technology: for stimulating the scientific-research institutes, design bureaus and manufacturing enterprises. In connection with this, a different order of distribution has been set for incentive mark-ups as compared with profits. While only 17.5 percent of the profits are directed to the economic incentive funds (around 60 percent goes to the budget), up to 70 percent of the incentive mark-ups go to this fund (15 percent of the sum of mark-ups goes to a unified fund for development of science and technology and 15 percent to the budget).

According to the data for 1982, the sum of mark-ups for the production of 11 machine building ministries comprised 440 million rubles. Of this, the maximal sum handed over to the economic incentive funds was equal to 308 million rubles. Half of this (154 million rubles) was used for incentives to workers at scientific-research institutes and design bureaus, while the remaining portion was directed to the manufacturing enterprises. Incentive mark-ups are the primary source of stimulating scientific-research institutes and design bureaus in the development of new and highly effective technology.



Work has also been performed on the review of the amount of incentive mark-ups for new highly effective production assimilated in 1980-1983. Altogether, since 1 January 1984 the mark-ups have been increased for 179 highly effective products, and for 100 of these products they were set in the amount of 30 percent of the wholesale prices. For the remaining products they were set at 15-20 percent of the wholesale price within the limits of the economic effect from the production and application of the products. A necessary condition in increasing the amount of the mark-ups was that the growth in prices with inclusion of the increased mark-ups for new products did not exceed the increase in productivity (capacity, load capacity) of this equipment as compared to that previously assimilated product which it had replaced.

Among the highly effective production for which the incentive mark-ups were increased were steam turbines with capacity of 1 million kW, power steam boilers, large capacity turbo- and hydrogenerators, pipe welding assemblies, electrothermal furnaces, modern automated machine-tool and forge-pressing equipment, and high productivity excavators. For example, for a mechanical press (with manipulator) whose productivity is 1.9 times higher than the productivity of an analogous product, the wholesale price is set in the amount of 33,000 rubles, and effective 1 January 1984 the incentive mark-up was increased from 3,300 rubles to 9,900 rubles. The wholesale price of the new press increased by 1.9 times thanks to the mark-up and is at the level of increase in its productivity. For the EKG-5A excavator the amount of increased mark-up is limited to 18 percent of the wholesale price due to the fact that the increase in the wholesale price with indicated mark-up is at the level of growth in productivity of the new excavator as compared with the model which it replaces.

On the average, the amount of mark-ups has been increased by a factor of 2.8, and the additional sum of this increase has comprised about 48 million rubles. According to the established order, up to 70 percent of the sum of mark-ups is directed to the economic incentive funds, including also to the fund for material incentives for awards to manufacturing enterprises and developers of new products (scientific-research institutes and design bureaus). This ensures their direct interest in the development, assimilation and increased output of new technology.

However, we must note that the output volumes of new, highly effective production are still extremely insignificant (less than 1 percent). Therefore, work on the certification of industrial production and on the establishment of incentive-mark-ups and their improvement should be persistently brought to life, eliminating any difficulties which might arise in the way. Along with this, the effect of the system of wholesale prices and discounts from them for rapid removal of outdated products from production has also been intensified. Under the formerly existing order, discounts from wholesale prices were determined by production of the second quality category and non-certified production in the amount of 7-15 percent. The portion of such production comprised only 0.3 percent of the overall commodity output in 1982 (for 11 machine building ministries), i.e., the discounts were practically not utilized.



According to the new order, production of a high or first quality category must be recertified. Outdated products are not subject to certification and must be removed from production. Discounts on them are set at up to 30 percent of the wholesale price instead of the 7-15 percent previously used. However, individual machine building ministries are slow in developing work on recertification of products with consideration for increased requirements for their technical level and quality.

The State Plan for Economic and Social Development of the USSR for the year 1984 for all ministries and departments provides for the task of removing from production specific types of obsolete industrial products and specifying the times in which their manufacture will be discontinued. On the basis of these tasks, the USSR Goskomtsen has established discounts from wholesale prices on obsolete products scheduled for removal from production. These discounts are in the amount of the profits realized with approval of wholesale prices for these products (within the limits of 10-30 percent of the wholesale prices). Altogether throughout the 11 machine building ministries, discounts have been approved on 232 points of the State Plan for Economic and Social Development of the USSR for 1984, which provides for the removal of outdated technology from production.

Moreover, it is a recognized fact that discounts from wholesale prices must be introduced for outdated products subject to removal from production in accordance with the sectorial plans. In this connection, the ministries must annually compile a list of outdated products according to the full plan nomenclature, while the price forming organs must establish discounts from wholesale prices for these products. Analogous work on outdated technology must be performed at the price forming organs of the union republics by nomenclature of products for which they determine wholesale prices.

The adopted additional measures generally encompass the set of questions which have arisen in regard to development of price formation on new technology. The ministries and departments should sequentially introduce these measures into the practice of price formation in the course of assimilation of new and highly effective machines, equipment and instruments by industry. The appropriate organs should strengthen control over the timely removal of outdated technology from production.

Recently, the practice of reducing prices is also expanding (without introduction of appropriate changes in the plan indicators) on products whose normal operation cannot be ensured due to the fault of the equipment manufacturer. This is associated with the fact that often the technical-economic parameters, and especially the reliability of the technology, in fact turns out to be lower than that provided in the standard-technical documentation on whose basis the products are placed into production and the prices and economic effect are substantiated.

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RESOURCE UTILIZATION AND SUPPLY

WHOLESALE TRADE SUPPLY PROBLEMS DISCUSSED AT ROUNDTABLE

Moscow MATERIALNO-TEKHNICHESKOYE SNABZHENIYE in Russian No 6, Jun 85  
pp 22-30

[Roundtable Discussion: "Wholesale Trade in the Means of Production"]

[Text] In his article, "The Distribution of the Means of Production and Wholesale Trade" [No 10, 1984], Candidate of Economic Sciences S.P. Avdeyev raises the urgent problems of further improving the material-technical supply of the national economy. This article raised a great deal of interest among the readers. Upon their suggestions, the editors, together with the Committee for Economy and Rational Use of Material Resources of VSNTU [All-Union Council of Scientific-Technical Societies], discussed the questions raised at a "roundtable" meeting. Taking part in this activity were: V.P. Yefimov, chairman of the Committee for Economy and Rational Use of Material Resources, VSNTU; V.P. Kuznetsov, department chief at NIIMS [Scientific Research Institute of the Economics and Organization of Material-Technical Supply]; E.R. Truve, first deputy minister of consumer services, ESSR; Yu.Kh. Sillaste, deputy director of the Planning and Technological Institute of Minbyt [Ministry of Consumer Services], ESSR; A.A. Yakobi, deputy chief of the Technical Administration of Gossnab, USSR; L.M. Shor, candidate of juridical sciences; O.D. Gotsiridze, chief of a subdivision at Gosplan USSR; O.B. Alekseyev, first deputy chairman, Gossnab RSFSR; V.P. Mishin, department chief at the Moscow Main Territorial Administration of Gossnab USSR; A.V. Siginevich, chief of the laboratory of the All Union Scientific Research Institute for Systems Research, USSR Academy of Sciences and GKNT [State Committee on Science and Technology]; and Candidate of Economic Sciences S.P. Avdeyev.

V.P. YEFIMOV: Improving wholesale trade in the means of production is of principally important significance for the further development of the material-technical supply of the national economy.

Qualitative changes in the forces of production and improving production relationships define the main theme of the great work of the party and the state at the contemporary stage. At the same time the task of increasing the effectiveness of methods for material-technical supply of the national economy is becoming especially urgent. The process of developing business-like relationships is proceeding on a planned basis, making use of such economic levers as price, production costs, profit and credit. They comprise the basis for cost accounting, which as V.I. Lenin noted, represent "state-regulatory relationships." Taking advantage of the potential capabilities of the socialist system of management requires continual improvements in the planning system, and learning to make better use of the economic methods of managing social production.

The planned nature of wholesale trade in the means of production permits, on the one hand, more fully utilizing the advantages of a socialist economy; and on the other, increasing the responsibility of the working collectives for the quality of their manufactured products, and the effectiveness of their economic activities. The interests of progressive development of the process of reproduction on a planned basis require a comprehensive study of the correlation of supply and demand for the means of production, in order to achieve the state at which individual outlays for manufacturing products are lower than socially necessary outlays.

The great established mass of labor resources is divided into three major groupings; these are: special-purpose production; production which is very widely used in the various branches of the national economy; and resources utilized in small quantities--for example, for scientific research and other purposes.

It is natural that the very process of selling the means of production is carried out by means of commodity-monetary relationships, regardless of which group it pertains to. At the very same time one should also single out the specific forms of organization of the supply of such means of production. With respect to the first group, the very process of manufacturing and the subsequent deliveries of the product created depends on tasks which have nationwide significance, this process is controlled by documents from the directing organs. Here the process of reproduction pertains to a specific manufacturer and consumer, and precise schedules are established for carrying out the work.

The organization of the process of sale of products in the second group is based on the planned tasks which define the volumes and terms of delivery. At the same time, there is increased opportunity for shunting resources here. In consideration of the enormous number of consumers, today it is necessary to greatly increase the role of cost accounting factors when defining both the level of expenditures for manufacturing a given product, and the volumes of materials, raw materials and equipment allocated.

Questions of enterprises and organizations pertaining to the third group of the means of production cannot be considered on a centralized basis. Here planned production is carried out for an anonymous consumer, who acquires his material-technical resources on the basis of ad hoc requirements.

In this instance the planned nature of wholesale trade in the means of production is determined by tasks established for the manufacture of a given product and by planning for circulating capital allocated for acquiring this production in the necessary volume. On these questions S.P. Avdeyev's article contains valuable and timely proposals.

For a long time it was considered that the planned nature of supply could materialize only when each consumer was provided funds and limits. However, practical experience has shown that such a system of resource distribution is cumbersome and complex. Experience shows that cost accounting relationships among subcontracting enterprises are regulated quite accurately by the monetary resources allocated for the acquisition of the necessary materials and implements of labor. In other words, it is possible to accurately ensure a state of balance between production and the necessary resources, without providing funds and limits to specific consumers. This condition is met by the policy presently chosen for increasing the economic independence and responsibility of the working collectives for the end results of their activities.

Choosing more flexible forms of planned control of the process of sales of the means of production requires substantial activization of the work of the banking organs, together with the territorial organs of Gosplan USSR are summoned to not permit stockpiling of abnormal reserves of material goods, and to ensure a steady production rhythm on the basis of strict observation of contracted obligations for delivering the products. The development of planned wholesale trade in the means of production is an important direction for further improving economic relationships and for working out a supply mechanism which will bring about the consistent intensification of social production.

V.P. KUZNETSOV: I perceive here an institute which in its time was commissioned to work out the problems of wholesale trade. Due to certain circumstances this program has been excluded from our plans, which seems to be absolutely wrong. Unquestionably the recriminations of the author of the article, which proposes a wide spectrum of scientific research in the given area, were altogether justified.

The development of wholesale trade determines and in our view will continue to determine the progress of the material-technical supply of a number of consumers.

Until now it was considered that eliminating the deficit and the imbalance between the available resources and the demand for them was a permanent condition in the development of wholesale trade. It was capable of being developed only by virtue of that portion of production which was produced in the required amount. It is thought that at one time such a situation was simply inevitable.

At the same time it is readily recognizable that wholesale trade is the very means through which the elimination of shortages can be promoted. But nevertheless, to a certain extent such an assertion has a psychological side



as well: the funding system for supply itself, they say, promotes the creation of a deficit, inasmuch as it leads to inflated purchase orders and stockpiling of reserves by the consumers. It is thought that removing any and all limitations will eliminate the stimulus for hoarding. Evidently this is to some extent true. However, it is also true that there are quite a few other stimulating features in the process of hoarding; among these are the enterprise's strivings to become self-sufficient, to universalization of production and to payment in kind.

The roots of these phenomena were nurtured primarily by the unreliability of the existing system of economic ties, which are founded on gratuitous, extraeconomic relationships. On such a foundation an unlimited supply of identically free distribution of material resources to the enterprises, which receive them no matter what their financial condition is and for which outlays are connected with maintaining reserves--is a rather abstract conception.

Hence one can logically come to the conclusion that establishing cost accounting, economically-weighted relationships between enterprises can be a serious incentive to widespread development of wholesale trade.

Another important direction for the expansion of wholesale trade is establishing capabilities for consumers or the supply-sales organization to freely acquire production in case of an interruption in its supply, or rejection of the products due to low quality. A special state reserve system should at the same time take on the role of guarantor. After all, it is no secret that today, even if the cost of losses are repaid, the consumer is deprived of the opportunity to receive the material resources he needs. Sanctions will not correct his economic situation.

Nor should one neglect to consider the circumstance that, in order to develop wholesale trade, a balance must be achieved between the resources on hand and the demand for them, and production deficits must be eliminated. This can be achieved not so much on the basis of expanding production, as by transition to a qualitatively new level of economic work. It is painfully obvious that we do not have a specialized service for controlling the market situation, supply and demand, on the level of a specific range of goods.

Finally, we must frankly state that wholesale trade is economically a more complex form of product distribution and sales than the existing form. It is simple, flexible and natural for the consumer, but not for the organizer of this process. An oversimplified approach to wholesale trade is inappropriate. One can formulate a simple rule for its operation: the simpler for the consumer, the more complicated it is for the supply system.

E.R. TRUBE: The questions raised in S.P. Avdeyev's article deserve, in our view, serious attention. The problems of improving wholesale trade in the means of production are especially urgent for the smaller consumers, which includes the consumer services enterprises.

The existing scheme for material-technical supply of our branch is, to put it mildly, far from perfect.

Consumer services enterprises in the Estonian SSR are operating under new management conditions. It would seem that the system for allocating and delivering raw materials, supplies and equipment would be changed in the same manner; however, there have been no significant changes in the work of Gossnab ESSR.

Our enterprises can purchase material resources for rendering consumer services to the populace through the retail trade system on a non-cash basis. Retail trade also has an interest in this form of supply, since the cost volume of commodity sales is included in the retail goods turnover, without being credited to the quota for minor wholesale transactions.

The very fact that consumer services enterprises have been given such a right testifies to the backwardness of the existing organization for material-technical supply. In essence, practical solutions to problems in wholesale trade have been found within the retail system, which is not faced with the task of supplying state enterprises.

We believe that if matters were properly organized under the aegis of Gossnab USSR and its territorial organs, many problems would disappear.

The question arises: Where does one get the material-technical resources for establishing the necessary stocks? The solution is quite simple. At our enterprises abnormal stocks have become a chronic illness. Consequently formation of a reserve of the required resources in the nationwide supply system is not a problem. And the rewards will be great.

O.D. GOTSIRIDZE: A few words about stocks. Specialists at NIIMS have checked a number of enterprises of Minstankoprom [Ministry of the Machine Tool and Tool Building Industry], Minpribor [Ministry of Instrument Making, Automation Equipment, and Control Systems] and other ministries, and found that the requirements for resources which they declare are on the average 47 per cent greater than they need for production. Products are allocated to them at a rate 25-37 per cent greater than their necessary requirements, and that which is delivered to the enterprises is nearly 17 per cent greater than required.

Diverting raw materials, equipment and sets of articles from industrial circulation causes the undesirable situation in which stocks of material-technical resources grow more rapidly than production volumes.

A.V. SIGINEVICH: It seems to us that the development of wholesale trade in the means of production will permit us to draw in a significant amount of valuable materials which have been dead-ended in reserves; it will ensure rationalization of economic ties and will bring about greater production orientation toward satisfying social needs.

In many ways the existing mechanism for bringing economic influence to bear to reduce material consumption in manufacturing does not at present support our purposes. The effects of the economic levers for reducing the capital-output ratio, for reducing industrial stocks, and for accelerating the turnover of floating assets, are hardly felt in the incentive system.

Therefore, expanding the scale of wholesale trade will be able to provide the desired effect only if accompanied by all-round improvement of the economic mechanism. Urgent measures should be taken to ensure the direct and permanent dependence of the income of the collective and each worker at an enterprise on the end results of their labor. It is also important to anticipate the formation of funds for wages and for expanding production on a self-financing basis, in accordance with the real circulation of industrial funds. In this connection, the receipt of material resources will be regulated by the degree of solvency of the enterprises.

Yu.Kh. SILLASTE: I would like to make a statement on behalf of the enterprises and organizations of Estonian SSR Minbyt, which have a great interest in improving the wholesale trade system. Our position boils down to the fact that the problem is a very urgent one and must not be forgotten. It is a shame that at times unlimited wholesale trade is not being developed. Certain of our enterprises, which had previously received resources without limits, have been shifted to funded supply. Has the consumer gained from this? Have the supply organs? Has the state gained from this? I doubt it.

I'll cite some examples. At one time there was no limit on the distribution of overalls. We were required to figure up our orders for them according to existing consumption norms. We fulfilled this requirement, and the real demand for the overalls increased. At present our enterprises receive as many as we order. Even if there is no need to do so, the supply organs require that we use existing funds. As a result, the customers of our branch have been forced to take a great deal that they do not need, and this gives birth to a shortage of products which are sorely needed by others.

We could buy up the overalls in a decentralized manner and at the same time limit the volume of their use strictly within the bounds of practical needs. This could be done by virtue of expanding the supply to enterprises and organizations through wholesale trade channels. But for some reason such a proposition is not acceptable to the supply and marketing organs.

A.A. YAKOBI: First of all I would like to say that the magazine did the right thing when it brought forth the complex problem of the development of wholesale trade for discussion by the readers. Discussion, obviously, will help select the proper course for solving this important problem.

In my view, one might disagree with individual features of S.P. Avdeyev's article, but on the whole it is presented in a concise, erudite and balanced manner. It poses the pressing problems of improving the distribution of the means of production in a socialist planned economy.



Ordinarily, wholesale trade is interpreted as a form of distribution under which material resources are withdrawn from a centralized plan, after which the enterprises have the right to "anarchy" with their acquisitions.

Of course, this is an extremely oversimplified approach. Wholesale trade can and must serve as an effective instrument for perfecting the economic mechanism. In developing it we are primarily proceeding from the fact that this type of supply has become one of the forms of planned distribution of production. In the final analysis wholesale trade permits the consumer to receive, with a minimum outlay of labor and resources and on a more flexible operational basis, products of the quality he needs, and at the time most convenient to him, for organizing the optimal production process. This theoretical position is the basis for the development of wholesale trade.

V.P. KUZNETSOV: Discussions on questions of wholesale trade are more often than not held within the framework of polarized positions, "free trade, or funding." In actuality, such alternatives do not exist. Limitations, in the form of quotas are inevitable and are necessary. It is only a question of which side of the relationship--"money or goods"--is limited and to which link in the system of distribution the limitation extends.

A.A. YAKOBI: Gossnab USSR and its territorial organs are preparing for a gradual transition to planned distribution of raw materials, equipment and semi-finished goods by means of wholesale trade. At the present time wholesale trade as one of the forms of supplying the consumers has full "civil rights" in our system--although, perhaps it has not been developed as actively as the situation demands.

There are quite a few factors which retard the step-by-step progress of advanced forms of supplying the enterprises with material-technical resources. Today, the consumer--be it a large plant or association such as AvtoVAZ [Volga Motor Vehicle Works] or a small scientific-research institute--is supplied according to a procedure under which it is obliged to submit orders on a timely basis for all required resources. If an enterprise which is a major producer manufactures products on a consistent basis, it can cope with this operation with relative ease; but for minor consumers the matter of presenting orders and estimates for them on a timely basis is not nearly so easy.

We believe that a certain group of consumers must be exempted from filing preliminary orders, and must be supplied in accordance with an order which they can effectively draw up from 14-20 days prior to start of delivery.

At the very same time, when we switch the means of production or certain groups of consumers to a system of supply through wholesale trade channels, this in no way signifies that the production is eliminated from the plans for distribution--although in the given situation the process of making out schedule orders will require a great deal more attention. After all, in the new conditions it will be necessary to constantly study the market conditions for demand, and determine for oneself the need for this or that kind

of production, by regions and for the country as a whole. All of this requires a different level, and I would say a different standard of work than that to which we've become accustomed.

First of all, a switch to wholesale trade must involve the scientific research, planning, designing and technological institutes and organizations, for whom it is extremely difficult to determine resource needs ahead of time and for whom at times unforeseen demand for production arises.

Ultimately, a switch to supply via wholesale trade channels is envisaged for the entire non-production sphere; that is, for the enterprises of those ministries and departments which are now supplied in accordance with the line "Other Consumers." Finally, it is planned as an experiment to transfer certain enterprises of ministries and departments in Group B to material-technical supply under the wholesale trade system.

In the national economy, more and more products are being manufactured, the volume of which completely meets the needs of the consumers. It is true that there are various points of view on the methods of distributing them. Today we cannot propose any kind of ready-made system whose every detail has been proven. But this in no way signifies that one should reject further development of unlimited wholesale trade.

O.D. GOTSIRIDZE: S.P. Avdeyev's article stresses the need for centralized distribution. At the same time central planning is identified in it with a card system. Such a comparison is absolutely incorrect. A card system envisages limited consumption, while centralized planning envisages concentrating resources in the most important sector of the national economy for realizing the tasks of socialist construction.

At the very same time one cannot but take note of the shortcomings which exist in the present system. The first, of which I would like to speak in this connection, concerns orders for material-technical resources. A great deal could be made simpler in this campaign. For example, Gosplan USSR does not require a single order from anyone for the needs of capital construction. We practice centralized estimates for needs according to objective norms, in accordance with the structure of the construction work.

Another example: Ten years ago Gossnab USSR passed a resolution stating that, if the annual increase in resource consumption of an enterprise does not exceed five per cent of the resources of the base year, no orders are required from the consumers whatsoever. These examples testify to the fact that the process of conducting a campaign for orders and resource distribution can be greatly simplified.

It would be expedient to compile a list of intermediate organizations supplying materials by type of production--not for the entire range of goods, but for certain ones. This would greatly alleviate and simplify the work of both Gosplan USSR and Gossnab USSR. Other kinds of production which are consumed in insignificant amounts may be distributed through the wholesale trade system.

As a first step, Gosplan USSR should, through its territorial organs, switch to supplying products of a production-technical nature in the wholesale trade system of the ministries and departments which are at the present time receiving them by means of centralized distribution in accordance with the line "Other Consumers." At the same time it is necessary to maintain a list of the kinds of material-technical resources which are in especially short supply.

Along with this, it is expedient to examine the range of centrally-distributed products of a production-technical nature, excluding from it those resources whose production volume fully satisfies the needs of the national economy, and transfer them to sales in the wholesale trade system.

Finally, it is necessary to commission Gosplan USSR--with the consent of Gosplan USSR and with the participation of the interested ministries and departments, and the Councils of Ministers of the union republics--to maintain a differentiated list of intermediate organizations supplying materials, by type of centrally-distributed products of a production-technical nature. This will permit singling out from the overall demand for resources those which are consumed in insignificant amounts. These also should be acquired through wholesale trade channels.

A.V. SIGINEVICH: I consider the main principles of S.P. Avdeyev's article indisputable. Among the factors which are hindering widespread distribution of unlimited wholesale trade, a considerable role was played by the fact that a significant amount of resources is distributed by territorial supply organs. Apart from the serious incongruities which appeared between production plans and material-technical supply, this led to an unjustified increase in office correspondence connected with handling the orders at multiple levels. Furthermore, as a result of overloading the apparatus of the territorial administrations with unfamiliar work, less attention was paid to wholesale trade.

To a certain extent various interpretations of this progressive form of material-technical supply, which found expression in official documents had an influence on the development of this form of goods circulation. In statistical reports for example, the graph of wholesale trade volume includes all the sales of products from the warehouses of the territorial organs. This leads to distortion of the true situation in terms of deliveries. Thus, according to the bookkeeping accounts presented by the Central Chernozem Main Territorial Administration, in the 11th Five Year Plan the proportion of wholesale trade in the total volume of product sales increased significantly. In actuality this is far from true. Growth was provided by virtue of reexamination and redistribution of existing data in the appropriate graphs.

There are two necessary prerequisites for consistent expansion of the scales of unlimited wholesale trade in the national economy. Quite often one must face the paradoxical situation, where products are distributed by production order when there is no demand for them, and they gather dust as they accumulate in abnormal amounts. And the consumers, fearing a reduction in their future funds, try to "haul them in" completely. Under conditions of



modern large-scale production, it is not possible to control the distribution of a range of products that numbers in the millions through central planning. Only the consumer himself is capable of determining the volume of the kinds of resources he needs. At the same time he must have the right of choice of the forms of their receipt, of determining the quantity and quality of the products delivered, and the right to use of financial means for ordering resources with individual consumer characteristics.

The manufacturer, in turn, must organize his production program on the basis of contracted economic agreements. At the same time the contract should serve not only as an instrument for specifying planned assignments, but also as a means of working out well-founded quality plans for manufacturing the products which the national economy needs.

Such an assignment has been made, and it is currently being fulfilled in the course of an economic experiment on a vast scale.

Increasing the role of the enterprises in developing production plans and carrying them out can be assured only with their increased independence in setting up long-term economic ties, and the development of wholesale trade. It goes without saying that this does not exclude preserving priority special-purpose allocation of resources to specific consumers and to the establishment of certain quotas. But for the products which are not being produced in the required amounts, beefed-up quotas should be established, within whose limits the consumer can order the amount of raw materials, supplies and equipment which he needs.

L.M. SHOR: The problems of the development of wholesale trade are very significant. Despite the optimistic opinions already expressed on the condition of this progressive form of supply, I believe that lately it has been significantly reduced. The reasons for its decline are, in my view, twofold: the first--defining shortages, setting up the kinds of production which is carried out according to quotas and without quotas--for some reason has become the prerogative of the territorial organs. The ministries and soyuzglavsnabsbyt [All Union Main Administration of Supply and Marketing] offices have practically washed their hands of these matters. As a result, in one period there may be shortages of products, and in another none; in one economic region production may be sold without funds, and in another, according to strict quotas. All of this depends upon the ability of the territorial organ to allocate the necessary amount of material resources.

The second reason: A number of normative acts were published, in accordance with which requirements for presenting orders and estimates were made more stringent; in addition, the gossnabs of the union republics and the main territorial administrations were required to formulate the distribution of products among the consumers.

Consequently, in order for unlimited wholesale trade to receive an incentive to develop, it is necessary to solve the problem of defining demand and ensuring a state of balance in those kinds of products which may be

distributed without placing orders and funding beforehand. A list of such products should be approved by Gosplan and Gossnab USSR, as was already proposed by the conference members. At the very same time, it is necessary to increase the responsibility of the ministries for satisfying the needs of the national economy for these resources.

The danger exists that unfunded marketing of output may be improperly applied to orders, and may lead to squandering of resources. But the economists who support this point of view forget, that in that case the territorial supply organs are not relieved of their responsibility for maintaining state control over the expenditure and rational use of material resources.

It is especially important to give top priority to solving the problems of supplying scientific-research and planning-designing organizations through wholesale trade. There can be no two ways about this. The existing system of distribution and marketing of products is most unsuitable for just such organizations. One cannot require orders for material supply for projects which are not yet fully formed in the minds of the scientists, and for which they have no specific proposals.

The problem of wholesale trade involves not only the principle of product distribution. Organizational-methodical questions are also very important here: setting up a certain system for processing orders; implementing a method of forecasting and deriving more or less reliable data on the resources required; improving the interrelationships between the territorial organs of Gossnab USSR and the suppliers; and many more.

O.B. ALEKSEYEV: Today, it seems to me, the subject should not be that of eliminating the funding or reducing it, but primarily that of improving material-technical supply--which is obliged to plan ahead for such features as more precise definition of the needs of enterprises and organizations for material-technical resources; reexamination of the existing normative base, and placing it on a precise scientific basis; and strengthening supply discipline in terms of fulfilling contracted obligations.

It would appear that the preferential rates employed in paying bonuses to the supervisory personnel at enterprises and ministries ought to be abolished. They destabilize the existing planning process for distribution of production.

Priorities for shipment of products are also detrimental to supply discipline. All questions of advancement and top priority for deliveries should be worked out on a planned basis, in order that the terms defined in the shipping documents provided by the marketing organizations are not violated. This would truly be a marked improvement to wholesale trade.

As far as a more precise definition of the concept of "wholesale trade" is concerned, apparently the time has come for Gossnab USSR and NIIMS to clarify the regulations on wholesale trade.

At the same time I cannot but support the idea already expressed here that one should not require orders for material-technical resources from minor consumers, from state budget organizations and certain others. They should be able to acquire all the resources they need in small wholesale stores. As far as the major consumers are concerned, there is no need to fundamentally break up the existing system for supplying them.

V.P. MISHIN: One cannot help noticing that the positions of those taking part in today's meeting are highly polarized. In our view, in order to reach a consensus, we must first define the "subject" of wholesale trade.

In accordance with the Wholesale Trade Regulations approved by Gosplan USSR in 1975, wholesale trade pertains to all production which is sold through direct long-term economic ties, and also to resources which are turned over to the main territorial administrations for distribution, regardless of the means of delivery.

On the other hand, in 1982 the USSR Central Statistical Administration approved an instruction for filling out Form 1-OPT, "Report on Marketing of Products for Industrial-Production Purposes in the Wholesale Trade System". According to this instruction, wholesale trade applies to all products turned over by soyuzglavsnabsbyts, ministries and departments to the territorial organs of Gosplan USSR for marketing through supply enterprises and wholesale stores.

Two documents on one and the same question, but with totally different definitions of the subject.

At the present time the draft of a new wholesale trade regulation for products for industrial production purposes is being prepared. The regulation to define this form of supply is one applied to consumers of non-industrial ministries and departments, to whom material resources are allocated in accordance with the "Other Consumers" line, and also to enterprises and organizations of ministries and departments who receive products in small amounts.

It is appropriate to recall that in 1975 just such a system had been defined for supplying resources to scientific-research, engineering and designing organizations. However this form of supply was not developed for minor consumers. The fact of the matter is that the ministries and departments on the whole did not transfer to the territorial organs the resources needed for supplying their own scientific organizations.

It would seem that before approving a regulation on wholesale trade, Gosplan USSR, Gosplan USSR, the ministries and departments must draw up a list of the consumers who will be supplied via the wholesale trade system.

The second question on which attention must be focused is the organization of unlimited trade. A list of products allocated for these purposes should be established annually by a regulation from Gosplan USSR in accordance with



the demand bids from the soyuzglavsnabsbyts. Only they can determine which resources the national economy has in sufficient amounts. Under no circumstances should this work be confined to the territorial organs, since they do not have enough information at their disposal.

V.P. YEFIMOV: Our "roundtable" discussion of the problems of developing wholesale trade is drawing to an end. What sort of conclusions can we draw?

First of all, as the discussion participants have noted, from a political-economic point of view there is no direct exchange of products in the national economy, but there is a process of planned marketing of the means of production, which is couched in terms of commodity-monetary relationships. Essentially, the question is not so much one of carrying on wholesale trade in the means of production, but one of an alternative approach to its organization--in consideration of the tasks posed for switching the economy onto the tracks of intensification, and the rapid acceleration of the rates of introduction of the achievements of science and technology associated with this intensification.

Revolutionary transformations in the forces of production on the basis of robot technology, microelectronics, and waste-free technology presuppose the creation of conditions under which each enterprise will have the capability to readjust its production processes in a short period of time, and to manufacture principally new products. This corresponds to a great extent with the policy for expanding the rights of the enterprises and increasing their responsibility for the results of their work, and for strictly observing their contracted obligations.

In this connection it becomes necessary to take a new approach to those suppliers which are not producing high-quality advanced products. The consumer must receive the right not only to reject low-quality products but also to demand the manufacture of the articles he needs or change suppliers. Only under these circumstances will we be able to depart from the principle of "the plan--at all costs."

The party's policy for proceeding from the highest criteria for labor productivity and production effectiveness when examining the results of our development does not coincide with the governmental-bureaucratic organization for marketing products. Practical experience in the marketing of technically-backward means of production has nothing whatsoever in common with the tasks for intensification. Each manufacturer must be guided by the rule--when you manufacture a product, think about the consumer, about the ultimate national-economic results. At the same time, there are increasing demands on each product manufacturer. In order to get the necessary results, it is important to set up a flexible system of interaction between the supplier and the consumer. Thereby, the instructions of V.I. Lenin will be implemented, on the necessity to organize an "exceptionally complex and intricate network of new organizational relationships..."

The wide-scale economic experiment now being conducted was also considered in further improving such a flexible system.

The development of wholesale trade is a vital requirement of life. In this connection there is an increasingly urgent problem for improving in every possible way the level of balanced work in the planning and in the supply and marketing organizations; intensifying the activity of the organs of Gosbank USSR and Stroybank USSR; and activating financial levers. The task is one of embodying the resources which society directs toward expanding production in such means of production, the marketing of which would signify a new step on the path to intensification of our country's economy, to increasing the effectiveness of the national economy.

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CSO: 1820/223

## ECONOMIC MODELING AND COMPUTER TECHNOLOGY APPLICATION

### METHODOLOGY FOR FORECASTING RESOURCE REQUIREMENTS EXAMINED

Moscow EKONOMIKA I MATEMATICHESKIYE METODY in Russian No 3, May-Jun 85 pp 397-496; submitted to editor 9 Oct 84

[Article by S. M. Vishnev (Moscow) under the rubric "Theoretical and Methodological Problems": "Problems in Forecasting Resource Requirements"; passages rendered in all capital letters printed in boldface in source]

[Text] The 12 July 1979 decree of the CPSU Central Committee and USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Raising the Effectiveness of Production and the Quality of Work" [1] called particular attention to the rational utilization of productive capital and material, labor and financial resources; to conservation and the elimination of losses in the national economy; to the development of fuel- and metal-saving measures, and to the formation of the material and financial reserves necessary for the proportional, balanced development of the economy.

The difficulty of selecting a rational resource-saving strategy stems from the fact that it must be combined with the steady and quite high economic growth rate of the entire world socialist system. While this strategy has always been and continues to be an central part of plans for the economic and social development of the USSR, the tasks presently associated with it are more pressing than ever before. As noted at a sitting of the Politburo of the CPSU Central Committee, "In our day, it is specifically the economy that is becoming the most important source for ensuring the growth of production" [PRAVDA, 16 November 1984, p 1].

The selection of a strategy for conserving all types of resources urgently demands the more extensive forecasting of society's need for them and the real possibility of satisfying this need. Such multivariant forecasts must be based on the experience of recent decades and at the same time must take special care to take new developments into account. The degree of detail and quantitative determinacy of forecasts vary depending on their time span. One thing is certain: socialist society must look far into the future on a broad, global scale. Capitalism's fundamentally predatory attitude toward natural and human resources is basically alien to a planned socialist economy.

Waste recycling, which is also important from the standpoint of natural resource conservation, is the primary stage of resource conservation. While



certain strides have already been made in this direction, the potential for waste recycling and the secondary utilization of materials is still far from exhausted. It must be admitted that science and technology have not yet devoted sufficient attention to this problem.

The resource conservation task can be viewed on a micro- and macroeconomic scale. The former embraces the job, brigade, shop, enterprise, association, subbranch, branch, city, and region; the latter—state problems, problems of international economic associations, problems of socioeconomic systems (socialism, capitalism) and global problems on a planetary scale.

Forecasts of social needs and resource potential are usually classified as short-, medium- and long-range. Long- and extra-long-range (beyond 50 years) are by no means utopian: many of the large projects that are presently being planned must exist and function normally for a century or more.

It should be emphasized that the resource problem is aggravated by the depletion of certain important sources of minerals and by the continuing deterioration of the environment—by the pollution of the air, water and soil with harmful waste materials. Nor is it possible to ignore the worsening of climatic conditions in vast regions of the earth and their far-reaching economic and social consequences.

Calculations of the world's resources and their comparison with mankind's needs are frequently deceptive: the geographical distribution of resources is extremely uneven and their transfer from one country to another is by no means determined by the difference in the level of needs. In the capitalist world, there is an extremely complex and very inefficient mechanism of world trade and international financial-economic relations. The resulting contradictions are so acute that they have become a more powerful factor in inhibiting the development of many countries than the availability of natural and labor resources.

Thus, global calculations of resources require careful economic analysis and the assessment of the complex of internal and external conditions. For example, when all ferrous metallurgy capacities throughout the world are added up, the impression is created that the metal requirements of all countries can be satisfied without the construction of new metallurgical plants. In actuality, most countries are experiencing an increasing shortage of metal. Consequently there is a need for differentiated research on balances of resources and needs on a regional, national, international (international economic associations) and a global scale to reveal imbalances in the various areas.

#### Measurement of the Resource-Intensiveness of Production

The matrix INPUT-OUTPUT BALANCE is an instrument for measuring the material-intensiveness of production. However its productive use for solving such problems demands: (a) the quite detailed deaggregation of all branches of the national economy; (b) the compilation of balances on a regular basis; (c) the need for precise initial data; (d) the reciprocal coordination of balances in value units and physical units; the comparability of balances with respect to structure, calculation methods, prices, etc.

As is known, the model of the input-output balance makes it possible in principle to determine resource-intensiveness and labor-intensiveness for the entire final product, for branches and for individual products reflected in the classification of the [input-output] table. Such a calculation is made with the aid of the matrix of coefficients of total expenditures in the form  $B=(I-A)^{-1}$ . It is considered proven that such an interpretation is entirely admissible when it is based on matrix A of coefficients of total expenditures, which is taken from actual (statistical) data. However, in our view such an interpretation is not applicable to planned input-output balances with a different structure of balances, resources, final product and direct per unit costs. Only with minor structural changes is it possible to transfer the calculation of resource-intensiveness from input-output balances to forecast balances. At the same time, detailed input-output tables are compiled with long time intervals. They do not reflect all types of resources and do not by any means incorporate all the necessary indicators. Thus, the information they contain, while unquestionably valuable for economic analysis, is insufficient for the practical measurement of the resource-intensiveness of production and all the more so for forecasting social production's needs for specific resources in the future. In view of the indicated features of input-output balances, they can be used to determine and forecast resources only in combination with other approaches.

In principle, the theory of so-called PRODUCTION FUNCTIONS could be an adequate mathematical system for measuring and comparing resource inputs and the magnitude of the final product. Experience shows that the in depth mathematical economic analysis of these functions can provide valuable information on the resource-intensiveness of production, on the effectiveness of utilization of individual resources, on the elasticity of replacement of one type of resource by another, on conditional maximum output when there are constraints on resources, and on a number of other indicators. However the practical use of production functions to investigate and forecast possible ways of conserving resources is hindered by the specific demands of models of this class. First of all, there is a need for complete, reliable and precise initial information for quite an extended past period. The parameters of the functions should be stable. Correlation analysis encounters difficulties that are generated by the collinearity (interdependence) of variables and other features of a statistical nature. In connection with the noted difficulties, the productive application of the production functions method in practice is limited to microeconomic models with a small number of variables (resources). For forecasting, it is feasible to use this method only in conjunction with others and with careful expert assessment.

Let us now discuss the possibility of applying the ELASTICITY METHOD. A broad macroeconomic interpretation of its concept is contained in the product-labor model of the national economy built by V. S. Nemchinov [12]. Elasticity coefficient  $q_j$  equals the correlation of increments of natural logarithms of production volume (consumption) of resource  $j$  and the final product for a single time interval (in the range of infinitely small increments), i. e.,

$$q_j = \frac{d \ln x_j}{d \ln Y} \approx \frac{Y \Delta x_j}{x_j \Delta Y},$$

where  $Y$  is the value of the final product (or physical volume of national income); and  $x_j$  is the volume of production (or consumption) of resource  $j$ . Elasticity coefficients obviously differ for different resources and countries and also change in time.

For the sake of brevity, let us introduce the notation for relative increments

$$\pi a = \frac{\Delta a}{a} = \frac{a(t) - a(t-1)}{a(t-1)}.$$

Then

$$q_i(t) = \frac{\pi x_i(t)}{\pi Y(t)}.$$

The concept of elasticity in economic models almost always interpretation from the standpoint of the commensurability of the values they incorporate. When it is examined with regard to homogeneous products (for example, electric power, aluminum), natural (physical) indicators alone are sufficient, but when summary values are examined for a group of heterogeneous resources, the complex "weighting" problem arises. If resource-intensiveness is determined with respect to the final product (national income, etc.), it is natural to use for aggregation the same statistical weights that are used to calculate the general indicator itself. While coefficients of national economic labor-intensiveness could serve as more adequate weights in the general case, they are naturally not ideal in particular because they do not encompass the evaluation of natural resources.

It must be considered that between the creation of resources and their embodiment, there is a certain lapse of time (sometimes very considerable)—lag  $\lambda$  which fluctuates widely from one type of resource to another and in each specific instance is assessed by experts. Taking  $\lambda$  into account, the coefficient of elasticity for resource  $i$  assumes the form

$$q_i(t) = \frac{\pi x_i(t - \lambda_i)}{\pi Y(t)}.$$

Most countries publish annual ex post data on the production of the most important types of products and on the dynamics of their national income (or gross national product). These statistics make it possible to construct dynamic series of elasticity coefficients for given resources taking lag into account for quite a long retrospective period (20-30 years). These series can be equalized by such well known statistical techniques as, for example, orthogonal polynomials.\*

We shall call the statistical function that reflects the curve of an equalized dynamic series of elasticities and lags the  $\eta$ -function. While the complex of such functions characterizes the dynamics of resource-intensiveness of the final product during the ex post period, it nevertheless has a limited sphere of application. Elasticity does not reveal cause and effect relations;  $\eta$ -functions do not fully take into account natural resources and productive capital; in the case of null or negative increments of inputs or outputs, dependences become unclear and require additional information, in particular, on the elasticity of replacement of resources. Thus, the complex of  $\eta$ -functions of variable elasticity is a kind of descriptive model of dynamic resource-intensiveness of the final product. This model requires concretization and a number of hypotheses needed for multivariant and active forecasting capable of serving as the strategic base for resource conservation.

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\*In view of the low degree of accuracy of the initial data, high-order polynomials are not required here.



## Forecasts of Resource Requirement Variants

The logic of forecasting the supply of social production with resources, like the logic of any forecast of complex processes (social, economic, ecological or scientific-technical) requires that the basic problem be broken down into a number of simpler problems:

- a) the differentiation of regions  $S_a$  and  $S_u$  of attainable and unattainable states\*;
- b) the evaluation of the range of attainable states of resource supply for sequential stages of forecasts and strategic decisions;
- c) the determination of probable time frames of threatening critical situations  $S_i$  ;
- d) the evaluation of possible consequences (immediate and long-range) of strategic decisions regarding resource conservation and environmental protection; and
- e) the verification and correction of forecasts based on updated and additional information.

The purpose of an active and comprehensive forecast of resource requirements and availability is to provide information that is possibly not entirely complete and fully determinate, but that is nevertheless logically substantiated and sequenced as a basis for making decisions and for selecting optimal strategies on resource development and utilization.

The ways and means of performing the calculations are determined by the forecast area, by its boundaries with respect to space, time and the products involved. A central place is occupied by forecasts on a national scale. With regard to the planning of the USSR's economy, forecasts and strategic decisions spanning two and three five-year plans are of the greatest practical significance.

We believe that within these limits it is admissible to adopt three hypotheses regarding average annual economic growth rates and four hypotheses concerning the dynamics of elasticity of the most important resources (vis-a-vis the final product). The forecast will therefore cover 12 variants. If unlikely "extreme" situations are eliminated, the central nucleus of priority variants will consist of roughly three or four "scenarios."

The forecast of resource requirements based on variable elasticity coefficients can be made in several stages.

1. The compilation of dynamic series of coefficients  $q_t$  (based on available statistical data) for quite a long period of time (20-25 years); the smoothing of this series by known statistical methods and the deduction of retrospective  $\eta$ -functions (taking lag into account).
2. The determination of the probable growth rates of the final product (national income, gross national product) during the forecast period.

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\*If a sharp line of demarcation cannot be drawn between these zones, an intermediate "zone of indistinguishability" will be established by experts.

3. Multivariant forecast of the change in  $\eta$ -functions for the forecast period.

4. Variant calculations of the requirement for basic resources by conjugating forecast values of the dynamics of the final product with indicators of  $\eta$ -functions and selecting priority directions of development.

Evaluation of  $\eta$ -functions for the forecast period is based on the following points. Retrospective functions are first extrapolated to the forecast horizon and the possible deviation of elasticities from the extrapolated values is then evaluated. The resulting spectrum of variants is extremely broad, which necessitates the elimination of "extreme," highly unlikely variants from their number. Priority variants—the nucleus for forecasting requirements—can subsequently be used to compare actual resources with the forecast.

Comparative analysis of  $\eta$ -functions from the standpoint of forecasting makes it possible to break the aggregate of resources down into three groups:

- a) new materials and products with high growth rates of consumption, and consequently with high elasticity coefficients, that gradually decline;
- b) resources that have long been in use in a broad spectrum of spheres, with elasticities that fluctuate around a certain average level or stable trend vis-a-vis the final product; and
- c) "obsolete" types of resources, products for which the demand is saturated, materials that are replaced by more effective materials; elasticity in this group declines sometimes to zero or even to negative values.

The first group is typified by aluminum, synthetic rubber, plastics, synthetic fibers, and such items as television sets, computers, microcalculators, etc. The second group is characterized by metals, liquid fuel, chemical fertilizers, natural fibers, etc. The third group—by coal, timber, bricks, natural silk, etc. Graphs of  $\eta$ -functions show to which group a given resource belongs and the trend toward change in its elasticity relative to the final product. These functions frequently have an S-shaped logistical or asymmetrical single-peaked curve consisting of three basic phases: (1) accelerated growth; (2) deceleration of growth and stabilization of the  $\eta$ -function at a level close to unity; and (3) slow lowering of resource-intensiveness and the  $\eta$ -function's approximation of the practically minimal value. Change of such a nature is typical, for example, of steel consumption during the nation's industrialization.

The extremal values of elasticity coefficients can be established in only approximate terms. The maximum is evaluated on the basis of ecological and economic information that is updated as the raw data are refined. The minimum level of elasticity is determined by predominantly technological factors and by the depletion of the given natural resources. Asymptotic approximation of extremal elasticity levels is usually calculated on the basis of logistical function or (what is simpler) hyperbolic function.

Extrapolation of  $\eta$ -functions based on dynamic series for 20-25 years is suitable only for short-term forecasting; a longer time horizon requires

thorough economic, technical and ecological research on each type of resource and especially on resources that are likely to be scarce.

The reliably substantiated calculation of the growth of the world's population and its requirement for food and other vital necessities is an exceptionally important area of resource forecasting on a global scale. This problem entails forecasting the production of chemical fertilizers, the scale of irrigation work, the development of new land, and many other very large scale problems. Naturally, the forecast also encompasses the perspective of the development of the infrastructure: all types of transport, city planning, water supply, etc.

It must be recognized that the reconstruction and construction of cities have not yet found sufficient place in long-term economic forecasting. At the same time, the urbanization process requires the very considerable expenditure of society's resources, has a most direct effect on the lives of millions of people and exerts a powerful impact on the environment. Cities are created for centuries to come and the extra-long forecasting of requirements and resources is required for them. These complex problems exist in practically all countries in the world including ours. While a planned economy unquestionably has a much greater potential for the rational organization of the urbanization process, there is a great deal of room for integrated research here as well.

When the economy is functioning normally, current requirements are met entirely or almost entirely by available resources and there is frequently a contingency reserve. Forecasting can also identify the threat of substantial imbalances and bottlenecks in a certain stage. Advance information regarding future bottlenecks in resource supply is of paramount practical importance.

There is the possibility of a situation in which the minimum variant of needs exceeds the maximum variant of calculated resources. In such instances, a distinction must be drawn between local bottlenecks and imbalances on a macroeconomic scale. The threat of bottlenecks is countered in two ways: (1) by a complex of measures to reduce the requirement for a scarce resource; and (2) by the timely increase in the given resource or its substitutes. It must be remembered that a forecast can also reveal the probability of scarcity even when the supply situation for the immediate future is not a source of alarm.

When a quantitative forecast is practically impossible, it is advisable to use a point scale to evaluate future balances of specific resources. The point scale may be graduated as follows [3]: total and reliable availability of a given resource; needs for resource essentially satisfied; balance is realized without shortages through effective conservation measures; significant shortage of resource probable; severe shortage possible; total absence of a certain resource possible. The development of point scales is a good field for applying modern scientific expertise techniques.

The last three gradations necessitate the implementation of special programs to replace scarce resources or the formulation of a product mix that does not require the scarce resource.

The forecast of society's resource requirements is active and does not directly influence the course of the forecast process through the decision-making mechanism. However in the present age even a multivariant forecast cannot foresee all possible changes in the economy and hence from time to time



corrections are necessitated by changes in the structure of needs and new information on scientific-technical progress and by unforeseen changes in the international situation. The correction of the forecast of requirements for various categories of resources can be made in the following basic directions:

- (a) the assessment of changes in the structure of public consumption;
- (b) the reevaluation of natural resources (geological reserves in particular) inter alia, as a result of the discovery of large new deposits;
- (c) the reflection unforeseen scientific discoveries, inventions and improvements;
- (d) the augmentation and updating of information on losses in the national economy and on actual attainments in their elimination;
- (e) the assessment of new possibilities for the effective utilization of the advantages of the international division of labor;
- (f) the reflection of substantial changes in world prices on basic resources, etc.

#### Elements of the Resource-Saving Strategy

The active nature of the forecast of resources predetermines the feedback between the forecast and strategic decisions. In most cases, they are formulated as a result of the selection of the most effective of all variants of forecasts. At the same time, the latter must reflect the criterion underlying the choice of strategy.

Strategic decisions for the immediate future are based on vast (albeit not complete) statistical information on the availability of resources, on social production's needs, on the state of the environment, and on the real potential of the international division of labor. Extrapolation of the above-examined  $\pi$ -function of variable elasticity of resources calculated on the basis of data for the last 20-25 years is productive here.

The basic direction of the short-term strategy of resource-saving is the minimization of losses in all spheres of the USSR national economy. Medium-range strategy is aimed at the implementation of comprehensive programs, especially the Food Program and the Energy Program. The elimination of disproportions, decisive improvement of the quality parameters of output, and large-scale projects to increase resources and protect the environment are problems that merit special attention in the given stage. In long-range strategy, a prominent place will be occupied by measures to conserve scarce natural resources with the broad introduction of scientific-technical advances. In connection with the inevitable indeterminacy of the spectrum of long-range forecasts, strategy in the given instances will have to be highly adaptive and will have to create large, highly maneuverable reserves.

The most important problems in the conservation of material resources are:

—the elimination of direct losses in agriculture, in transport, in trade and in other branches;

- the substantial reduction of expenditures on repair and spare parts supply;
- material and moral incentives for substantially improving product quality;
- dramatic reduction of production waste and complete utilization of materials;
- measures to protect air, water and other elements of the biosphere.

The systematic and effective struggle against losses in the national economy requires first of all complete and reliable information on their localization, quantitative evaluation of their principal causes, on existing ways and means of eliminating losses, comparison of the requisite costs and economic effect, and coordination with other sections of the national economic plan.

Short-term resource-saving strategy should assign a special place to the improvement of product quality which in many branches is the equivalent of the quantitative growth of production. The production of goods lacking the proper use value should be regarded as an indirect loss of resources. In the age of the scientific and technological revolution, the real possibility of improving the qualitative parameters of means of production and consumer goods is truly unlimited: the reserve for saving society's resources is inexhaustible and effective here.

Even though our country has the vastest area of land suitable for agriculture's needs, this does not mean that the saving of the land and the fertility of the soil and the development of new land cease to be an urgent problem. First of all, it is necessary to take into account losses of agricultural land due to the expansion of cities, industrial construction, road and pipeline construction, the construction of hydroelectric power plants, airports, and other projects. It is also necessary to protect the land against wind and water erosion, dry winds, salination, chemical pollution, etc.

The maintenance and enhancement of the fertility of the USSR's soils through rational crop rotation and agrotechnics, through the effective use of mineral and organic fertilizers, etc., are another urgent task.

Specialists in different countries disagree vehemently on the evaluation of natural reserves of energy carriers (oil, gas, coal, etc.). Optimists believe that there is no basis for alarm regarding energy carriers on a global scale: geologists will find large new deposits; coal production will increase and coal will be processed into liquid and gaseous fuel; not yet utilized resources of oil-bearing shale, bitumen and other types of fuel can be put into use. Society's needs for energy carriers can thus be met for many decades. Convinced pessimists have a completely different point of view. In their opinion, the presently exploited sources of oil and gas will soon be exhausted and prospects for discovering similar large deposits are highly questionable. Increased coal production and its chemical processing will require colossal investments and, in addition, will contribute to the deterioration of the environment. It is also necessary to force the development of atomic energy, but this also entails major difficulties and is not accessible to many countries in the world.

Most experts support a middle-of-the-road forecast of the availability of energy carriers, but almost all of them expect energy to become progressively more expensive, which will require maximum energy conservation. While the Soviet Union has vast reserves of energy carriers, it will also have to do its utmost to conserve natural resources.

The basic ways of saving ferrous metals, the increased production of which is very costly, are known. Among them: improvement of the quality of metal (strength, resistance to corrosion, etc.); more effective rolling techniques; waste reduction; the use of lightweight components, etc.

Machine building also has major possibilities for economizing material resources, labor and energy. Here it is appropriate to recall H. Ford's idea regarding "uniform sturdiness" which meant that all assemblies, components and parts of any machine should serve dependably during the machine's entire normal service life without repair or replacement. However, vast quantities of labor, materials and time are spent on repairs and spare parts production. In order to gradually bring parts of new machines to the point where they will have the same service life requires certain additional expenditures in production that will be amply repaid by the saving on repairs, spare parts production and shorter repair time.

The formulation of long-range strategy is a special problem due to the lack of information; forecasts of the depletion of natural resources, scientific-technical progress, the international division of labor and other factors entails a certain measure of indeterminacy and the extremely broad spectrum of variants hinders the selection of an effective resource-saving strategy. It can be considered probable that resource and nature conservation will become an international, global task in the twenty-first century. Processes on a planetary scale are in evidence already today. The fuel-energy balance in the distant future will evidently be based on the broad use of atomic and solar energy. While these resources are practically inexhaustible, the economic, technical and ecological problems of their rational utilization are still far from their final solution. At the same time, future social production will be less material-intensive and more "science-intensive."

The system of state material reserves plays no small part in resource strategy. Soviet Union has been improving this system for many years and allocates considerable resources for these needs every year. The effectiveness of the system can be raised if the accumulated practical experience is supplemented by the application of methods for the optimal management of state material reserves under the conditions of a planned economy with elements of indeterminacy. The complex problem arises of combining centralized reserves with the dynamics of needs.

In the strategy of long-range resource utilization beyond the present century, it becomes necessary to take into account—in addition to scientific-technical progress and improvements in the economic management mechanism—profound changes in demography, ecology and the population's needs. Under these conditions, the application of resource elasticity coefficients vis-a-vis the results of production is of a very limited nature and they frequently lose their precise economic content. Indeed, it is not possible to use them to evaluate resource-intensiveness in such areas of the social infrastructure as education, health, urban and rural amenities, improvement of the environment, sports, etc. Here the evaluation of rationality, effectiveness and the



very possibility of making rational use of resources of a certain type will be based on the corresponding optimality criterion, the clarification of the nature of which will still require exhaustive research. This type of criterion may have regional, state, international and global (planetary) scale.

There is no doubt that the scientific and technological revolution holds great potential for saving natural, labor and other types of resources at the same time that economic growth rates are high. However it would be risky to rely entirely on advances in science and technology: the realization of the scientific-technical potential requires a well-conceived, realistic social and economic policy. It must be admitted that the resource-saving problem in all its aspects and interrelationships has not yet been properly investigated.

In our view, the ideas set forth above can serve as the point of departure for subsequent in depth research directed toward the substantiation of short-range and long-range forecasts, the elaboration of integrated target programs and the sequential implementation of effective measures for saving resources and protecting the environment. This presupposes: providing full and reliable information on available resources as a basis for strategic decision-making (on a regional, national and global scale);

—the elaboration of organizational and economic measures drawing on world experience within the framework of a chosen optimal strategy;

—the intensification of scientific and technical work on target programs scheduled for implementation;

—the establishment of legal norms directed toward saving resources and protecting nature, especially water and air;

—the investigation of the most rational norms governing the international division of labor (within the framework of the CEMA and on a worldwide scale);

—broad propagandization of the importance, ways and means of saving resources and conserving nature.

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CSO: 1820/209

## REGIONAL DEVELOPMENT

### UZBEK GOSPLAN OFFICIAL EMPHASIZES COORDINATED PLANNING

Tashkent *EKONOMIKA I ZHIZN* in Russian No 6, Jun 85 pp 9-15

[Article by V. Saakov, deputy director for science at the Uzbek SSR Gosplan Scientific Research Institute of Economics, doctor of economic sciences:  
"Important Elements of Territorial Planning"]

[Text] The need to restructure management and planning, structural and investment policy, and the economic mechanism in general were again stressed with special force at the CPSU Central Committee April (1985) Plenum. Included among the most important tasks in raising the level of management are improvements in sector and territorial planning. Their rational combination is a specific form in realizing the principle of democratic centralism, which envisages the coupling of a centralized planning leadership with initiative and relative independence in administrative territories. An optimal combination of national and local interests makes it possible to exclude negative phenomena such as narrow departmentalism and parochialism.

The viability of these undesirable tendencies is partly explained by the fact that there is still no unanimity of opinion of questions concerning the directions of development in this combination and on what aspects of its improvement should be considered priority.

It is therefore essential to mobilize the scientific theoretical, methodological and organizational and legal arsenals of planning and to make effective use of planning, taking into account the specific nature of each sector and each region.

In making improvements in the scientific soundness of national economic plans, particular importance is acquired by the following basic directions in scientific and preplanning work.

First, the work: prediction materials that indicate ways for the rational territorial organization of production forces. Second, proposals on improving methodology and methods in combining sector and territorial planning. Third, the organizational and legal mechanism used to make the combination.

This kind of scope in the unified system of scientific work in preplanning studies, planning methods, and its organization is an indispensable condition for the comprehensive approach to planning.



The scientific predictions that are now being made form the basis of improvements in combining sector and territorial planning in the sense that they are designed to "prop up" and enhance the soundness of actions by planning and economic organizations when they resolve summary economic and social problems at the republic level and develop and locate individual sectors of the national economy and intersector complexes; and also problems concerning the development of the Kara-Kalpak ASSR and the oblasts, territorial-production complexes, rayons and cities.

Summary prediction parameters for economic and social development at the republic level provide a link between the most important socioeconomic goals and the different kinds of resources, and form the interface in the development of linked sectors or production facilities through a coordinated system of planning indicators that characterize the volume and structure of personal and public requirements and the resources required to meet these requirements; and also result indicators for social production.

Resolving this task assumes, as is known, the use of the reproductive approach to studies on the economy of a republic, that is, an examination of the economic processes taking place within the republic as a regional subsystem in the national process of social reproduction.

A certain complexity is involved here in the correct coordination of the macroeconomic and distributive approaches to formation of the rates and proportions in economic development, on which, at the top level, the interface between the sector and territorial aspects of the process of social reproduction depends.

Some experience in this regard has been gained at the Uzbek SSR Gosplan Scientific Research Institute of Economics, the Uzbek SSR Academy of Sciences Council for the Study of Production Forces and a number of other scientific organizations in developing material for preplanning substantiation for the development of the republic's economy in the medium and long term. They have made use of mathematical-economic models in which a system of intersector balances, which includes macroeconomic consolidated dynamic, developed physical-and-cost and optimized intersector models, interacts with a block of models of the intersector complexes and intersector models of the development and disposition of production forces.

In our opinion, at the present stage, improvement of the national economic balance from the standpoint of combining sector and territorial interests should be primarily in the direction of coordinating the physical-material and value proportions not only at the sector level but also at the departmental level, bearing in mind the address nature [adresnost] of the parameters being sought; and also of insuring appropriate proportionality between economic entities at different levels of subordination (union, union-republic, republic) in the rational utilization of resources (labor, minerals and raw materials, land and water and so forth), and the formation of funding sources for the sectors of the infrastructure and other common objects.

This kind of approach makes it possible to detect in good time and warn of of contradictions and disproportions occurring at the stage of preplanning

calculations and--and this is especially important--to overcome planning "from the level reached" and substantiate the parameters for the development of sectors and intersector complexes.

We need to dwell in particular on the role of the intersector complexes as an object of sector and territorial planning and, hence, on their "on-site" combination.

The regional intersector complexes are socioeconomic formations that have come into existence because of objective reasons and are characterized by precisely expressed ultimate national economic functions and stable internal economic links; and they constitute important elements in, as it were, the "prefabricated structures" from which the entire development set of the republic as a whole is made up.

Take, for example, the construction complex--a system of interlinked sectors and production facilities whose ultimate national economic function is to create fixed capital. Its scope embraces the production of construction materials and structures, construction itself, appropriate activities in transportation and construction mechanization, a planning and scientific research element, supply and everyday enterprises and so forth, right down to the sphere of personnel training.

Even from this kind of generalized description of the complex the need for and complexity of the organization of clear-cut intersector and interdepartmental cooperation within the framework of the complex can be clearly seen. Since it is an important element in the regional infrastructure, the construction complex should be regarded as a unified system, regardless of the administrative affiliation of the construction organizations and enterprises that comprise it. And herein lies the specific nature of the problem of combining sector and territorial planning for regional intersector complexes.

Is this kind of approach always used? Not always, unfortunately. For example, within the republic there are almost 1,900 primary construction and assembly subdivisions (construction-and-assembly administrations, mobile mechanized columns, and so forth). The figure is impressive. Taken by itself it could serve as an indicator of the powerful production potential of the construction complex. But how do things stand from the viewpoint of sector and territorial planning?

In virtually every oblast there are now so many contract trusts, and in every rayon so many construction-and-assembly administrations (or mobile mechanized columns), and within the republic so many construction ministries and departments, that as a result resources are overextended on a large number of construction projects, the normativ periods for uncompleted construction are being increased, and so forth. In some cases this is explained by narrow-departmental interests, while in others it is explained by extremes in the territorial system of management. But in either case, it is the national economy that suffers.

Essentially the same situation has developed in the machine-building complex in the republic. The structure of the items it produces still has a predominance of nonstandard output. Specialization is very poorly developed in the intersector

production facilities. The shortcomings in the the organizational system and the persistent trends toward the narrow-departmental approach (the wish to have everything for oneself) have led to a situation in which the proportion of centralized output for various kinds of general machine-building products varies between 1 and 15 percent, and only in rare cases reaches 20 to 25 percent, as, for example, in instrument building.

And here we have essentially touched upon one of the most important aspects of the problem of combining sector and territorial planning, namely insuring coordination in the development of the republic's intersector complexes and the comprehensive development of the oblasts, rayons and cities, by combining the different "varieties" for their mutual enrichment and on this basis obtaining the maximum economic effect.

The key to the resolution of this problem must be the rational location of the intersector complexes on the republic's territory. And it is precisely the mechanism by which production forces are located that forms the interface node through which the overall complexity found at the republic level should be coordinated with the overall complexity at the level of its individual regions.

In recent years a positive trend has been noted in the republic in the development and disposition of production forces, in the direction of the more complete and rational utilization of natural resources and manpower and improvement in social production efficiency.

The shifts that have taken place in the disposition of production forces are especially typical for industrial production. Whereas during the period 1971-1983 growth in the volume of industrial production amounted to 221 percent for the republic as a whole, in Dzhizak Oblast the figure was 417 percent, in Kashka-Darya Oblast 375 percent, in Navoi Oblast 389 percent, in Namangan Oblast 261 percent, and in Syr-Darya Oblast 322 percent.

Much work has been done to develop the production forces of the small cities, urban settlements and rural rayon centers. During the 10th and 11th five-year plans alone more than 400 enterprises, branches and shops have been commissioned, and this has made it possible to additionally recruit about 60,000 people into the production sphere.

Togther with the rational disposition of the sectors of material production, a process of more even distribution according to the fields of the social infrastructure is also taking place.

All these measures have promoted an increase in the overall complexity of economic and social development at the regional level. But it would be very premature to assert that a rational combination of sector and territorial has been fully achieved, or that on this basis the problems of comprehensive development at the regional level solved. At both the regional and sector levels there are still inadequately substantiated questions concerning the rational disposition of production forces, from the standpoint of improving the territorial and intersector proportions, and also concerning the determination of correct ways and methods to increase the economic potential of the oblasts, taking into account the national economic interests of the republic and the country as a whole.



As a result of the uneven and partly narrow-departmental approach to the disposition of production forces in some oblasts (Kashka-Darya, Surkhan-Darya, Khorezm, Bukhara and Dzhizak oblasts), and also in the Kara-Kalpak ASSR, despite their accelerated growth they still lag noticeably in terms of their production contribution to the republic's economy compared with their potential in natural and economic opportunities. Particularly great territorial and intersector disproportions in the disposition of production facilities are seen in industry. For example, in the overall volume of republic production in the heavy industry sectors, the proportion from the Kara-Kalpak ASSR and Bukhara, Dzhizak, Surkhan-Darya, Khorezm and Namangan oblasts does not exceed 1 to 1.5 percent; and metal-repair enterprises and industrial construction materials enterprises are the ones mainly represented. Even the light and food industries, which are traditional for most of the oblasts, are engaged mainly in the primary processing of raw materials (cotton ginning, silk reeling, oil pressing, wine making) and the production of foodstuffs for consumption within the oblast.

The shortcomings in the development of the territorial structure are the result of the poor combination of sector and territorial planning, namely: lack of the necessary calculation of priorities in the development of the oblasts from the standpoint of equalizing the levels of this development, and also lack of clear-cut directions in production specialization through singling out those specialized sectors that would determine the place of each oblast in the territorial division of labor.

Serious disproportions in the oblasts are occurring in the location of these sectors of the production infrastructure, in particular the construction base and the construction industry. Thus, as a result of the irrational location of industrial construction materials enterprises and their administrative fragmentation, in some oblasts no territorial balance has been achieved between the production capacities of the construction organizations and the production of local construction materials, and the volume of unloaded return traffic is correspondingly high. For example, in Dzhizak Oblast only 14.2 percent of construction program requirements for walling materials are met from the oblast's own production output; in Kashka-Darya Oblast this figure is 54.2 percent, and in Syr-Darya Oblast, 39.5 percent; the corresponding figures for precast ferroconcrete are 56.3 percent for the Kara-Kalpak ASSR, 52.6 percent for Kashka-Darya Oblast, 6.8 percent for Navoi Oblast, and 44 percent for Khorezm Oblast. At the same time, about 38 percent of walling material and 60 percent of precast ferroconcrete is being shipped out of Tashkent Oblast and Tashkent city. This kind of situation, which reduces efficiency in the development of the construction complex within the republic, must be changed, even if it means dismantling some administrative barriers to achieve it.

It should also be noted that problems of the rational territorial organization of production in the form of territorial-production complexes are being solved only slowly in the republic, particularly in the formation and development of industrial regions and centers, and also in accelerating the development of small cities and rural settlements. Suffice it to say that to this day more than 50 promising small cities, urban settlements and rural rayon centers have at their disposal only cotton gins and agricultural repair enterprises. Things are made even worse by the fact that for almost all of the priority centers in small cities the prospects for their long-term development have not been determined, and this is hampering the purposeful and comprehensive shaping of the economy.

These examples clearly show the urgency of steps to combine sector and territorial planning for regional development more fully. Here we may distinguish a number of fundamental, one might say primary, tasks in improving the territorial organization of production forces. They include the following:

- determining priorities in the development of the oblasts and of promising territorial-production complexes and their systems in order to achieve rational inter-oblast economic proportions and consistently equalize the levels of their socioeconomic development;

- improving the structure of economic units in accordance with their natural and economic resources, primarily in the sector structure of industry, taking into account the precise orientation of each oblast in shaping sector economic specializations, coordinated with the sectors servicing basic production and the needs of the local economy and population;

- insuring a more even disposition of the social and everyday infrastructure, with determination of a system of priorities in the development of its sectors by oblasts, with a view to creating approximately equal conditions of living comfort for the population across the territory of the republic;

- determining ways to develop a system of population settlement, primarily for the medium-size and small cities, and enhancing the economic and cultural role of the rural rayon centers.

Along with work on these proposals, significant attention should be paid to methodology and methods in combining sector and territorial planning.

In recent years, in light of demands to improve planning in the republic, much work has been done to prepare normative documents and methodological materials. In particular, the Uzbek SSR Gosplan Scientific Research Institute of Economics jointly with the local planning organs has prepared a set of methodological instructions for compiling plans for the economic and social development of the Kara-Kalpak ASSR and the oblasts, rayons and cities of the Uzbek SSR; methodological instructions for the makeup, order of work, agreeing, confirmation and clarification of schemes for the development and disposition of production forces in the Uzbek SSR; methodological recommendations for evaluating the level of socioeconomic development in the oblasts; and so forth. In addition, a number of scientific and planning organizations in the republic are doing a great deal of work to prepare preplanning work-ups (predictions) for the long-term development and disposition of production forces in the oblasts and the formation of territorial-production complexes.

Thus, the UzSSR Gosplan Scientific Research Institute of Economics, the UzSSR Gosplan Republic Center for the Scientific Organization of Labor and Consolidated Indicators, and the UzSSR Academy of Sciences Institute of Economics have drawn up long-term programs for the socioeconomic development of Tashkent, Bukhara, Fergana and a number of other oblasts, which have been approved by the republic's directive organs. These methodological materials and preplanning work-ups are aimed primarily at raising the scientific level of planning and the features of activating the work of local planning organs in drawing up plans for the

comprehensive development of economic units and their interaction with the ministries and departments and associations, enterprises and organizations of various subordinations.

At the same time, a number of unresolved problems exist in this direction. In particular there is now an urgent need to draw up a unified program to study and coordinate the work of the scientific and planning organizations in their work on key problems in the comprehensive development of the republic's economy. The removal of interdepartmental barriers when working on regional problems will make it possible to solve questions of an intersector nature better and in a more substantiated manner, and, no less importantly, to eliminate duplication and parallelism in much scientific work.

It is also essential to intensify work on providing scientific and methodological help for the local planning organs. The importance of this is dictated by the fact that, despite the extension of the rights and opportunities of the local soviets in territorial planning and the main indicators now being worked out for the economic and social development of the oblasts' economies, no proper solution has yet been found to a number of questions associated with insuring the comprehensive development of their economies, matching the requirements of the sectors for individual kinds of resources and the availability of such resources on a territory, agreeing plans for interlinked production facilities, and shaping a unified interdepartmental program for the development of the consumer services sphere. Instances of this are frequent and have been repeatedly covered in the press, when certain ministries and departments fail to provide the local soviets with an opportunity to examine the draft plans for enterprises subordinate to higher organs.

The local planning organs are experiencing certain difficulties in the timely and complete presentation of materials from enterprises and organizations subordinate to higher organs, and as a result the work of the local soviets is hampered in drawing up territorial plans at the preplanning and planning stages.

Accordingly, along with improvements in planning methods it is necessary to improve its organizational forms. This is particularly urgent under present conditions. In light of the instructions issued by the Uzbek Communist Party Central Committee 16th Plenum on enhancing exactingness and strengthening state, planning and labor discipline, the role of organizational and legal backup for the management of the economy is growing significantly.

The legal basis is formed from the fundamental normativ documents of recent years, which resolved questions concerning improvements in planning at the territorial level and considerably extended the rights of the planning organs in general and the local planning organs in particular. These normativ documents include first and foremost the 12 July 1979 party and government decree on improving the economic mechanism, the 19 March 1981 CPSU Central Committee, USSR Supreme Soviet Presidium and USSR Council of Ministers decree on further enhancing the role of the soviets of workers' deputies in economic construction, and the UzSSR law on the oblast soviet of workers' deputies. Under these conditions, the task of concretizing this legislation and strengthening the organizational and legal safeguards in its comprehensive realization is moved to the forefront.



First and foremost it is essential to improve organizational and legal relations, insuring that ministries and departments provide a more complete accounting when they draw up sector plans, with proper consideration of the remarks and proposals of the territorial planning organs. Such remarks and proposals are of an essentially recommendatory nature. Agreement of the corresponding indicators for draft plans by the associations and enterprises and the local soviets is another matter. Strict control must be established so that no divergencies exist between the results of what was agreed and the plans passed on by the ministries to their own production subdivisions.

At the same time it is impossible not to notice that only title lists for nonproduction projects under construction and the indicators for the strength of the labor force are now passed for agreement by the local soviets. We think that the list of indicators for draft plans requiring the agreement of enterprises subordinate to higher organs and the local soviets should be extended. They could include, for example, indicators characterizing the organization of general machine-building production, development of the production infrastructure, and questions of social and everyday services for the public, which are not reflected in the title lists for construction sites; and environmental impact indicators and so forth should be more complete.

In enhancing the efficacy of territorial planning, and in this connection, making more complete use of the principle of double subordination, we have dealt with one "arm" of this principle, namely the hierarchical subordination of lower planning organs to higher planning organs. The main role is assigned to the territorial planning organs--the elements of the system of soviets of workers' deputies, through which the interests of the workers in a region are essentially cared for.

As is known, at the stage of organizing execution of the plans, the role of the local planning organs in intersector coordination on a subdepartmental territory is seen primarily in monitoring the course of plan fulfillment in economic and social development (which now includes indicators for the economic units of higher subordination), and also of summary plans for the production of local construction materials, the output of consumer goods, and plans for residential and municipal and cultural and everyday construction.

At the same time, among the indicators for the basic production activity of associations, enterprises and organizations monitored by the local planning organs, a central place should be occupied by the fulfillment of pledges for deliveries of production and technical output and consumer goods under the terms of contracts that have been concluded. This is an essential condition for orienting economic activity on achieving the final national economic results. In fact, for a long time the territorial organs (and not just the territorial organs) focused their attention only on the volume value indicators such as gross, commodity and sold output. Incidentally, the last of these indicators was introduced in October 1965 and had as its purpose somehow to compensate for shortcomings in the indicators for gross and commodity output: sold output included only those articles that were paid for by consumers; the idea was that they would accept only the products that they needed. However, it soon became clear that it is possible not only to fulfill but even overfulfill the plan for the volume of sold output by ignoring the required range and nomenclature

and essentially leaving the consumer without the products and goods he requires. The present economic-legal mechanism is aimed at strengthening incentive for and the responsibility of producers in satisfying the specific requirements of the national economy and the public, as fixed in economic agreements. But in order to make this mechanism effective it is essential that not only the organs of sector planning but also the organs of territorial planning be oriented on this, so that enterprises are not faced with contradictory demands.

This is particularly important now because of the further development of the large-scale economic experiment that now extends to a broad range of sectors. In the CPSU Central Committee and USSR Council of Ministers decree "On Additional Measures To Extend the Rights of Production Associations (Enterprises) in Industry in Planning and Economic Activity and Enhancing Their Responsibility for Work Results," in accordance with which this experiment is being conducted, it states directly that assessment of the economic activity of production associations (or enterprises) is done by higher organizations and local organs when summing up the results of work and of socialist competition primarily to fulfill plan tasks for the volume of sold output, proceeding from obligations to make deliveries in accordance with the nomenclature (range), delivery dates and quality.

Shifting the center of gravity toward monitoring and coordinating work by the territorial organs and away from volume value indicators for the fulfillment of delivery pledges is an essential condition for comprehensive improvement in the economic mechanism, and at the same time it enhances the role of these organs in bringing order to intersector economic links in a region.

Thus it is essentially a question of the need to control the process of combining sector and territorial planning and of insuring good order and comprehensiveness; that is, all the directions, ways and forms of this combination should be coordinated into a unified system, and this coordination should be the leitmotif both in the theory and methodology and methods, and in the organizational process of combining sector and territorial planning.

Do we have the wherewithal to insure this kind of coordination? We do. It is primarily the program, goal-oriented approach. Much has already been written about this, and now it is important to resist the temptation to regard it as a panacea for planning shortcomings. It is important that use of the program, goal-oriented approach does not become an insouciant fashion, when a multitude of "goal-oriented comprehensive" programs are mechanically stamped out proceeding exclusively from some desired condition of an object, and uncoordinated either with resources or between themselves, or with the system of state planning.

What, then, can the program, goal-oriented approach provide in solving the problem of rationally combining sector and territorial planning? In order to answer this question it is necessary to bear in mind that this kind of approach is not something external with respect to the system of national economic planning. Herein lies the main difficulty in using an effective rather than a merely formal program, goal-oriented approach: that it must be organically linked to the plan. The construction of "goal trees," determination of priorities and joint subordination of these goals, the provision of resources, the resolution of partial contradictions between individual goals and subgoals,

competition between resources--all these things must be handled within the framework of a unified system of planning for the economic and social development of the country and its regions.

In terms of its nature, the goal-oriented program is a long-term document. The period of its effect should be determined not simply in round figures--10 or 20 years--but by the periods realistically needed to solve a particular socioeconomic or scientific and technical problem. And these periods depend substantially on the dimensions of resources allocated to the program, and opportunities in this direction are not unrestricted but depend both on the actual availability of resources and the numerous goals not covered by a given program.

This is the root of the problem in coordinating goal-oriented programs with the plan. This is what makes it necessary to link the periods for the implementation of a program to the periods of plan implementation.

What, then, should be the content of a goal-oriented program for combining sector and territorial planning? Obviously it should link together into a single whole the organizational aspects of all goal-oriented comprehensive programs for the development of the republic's entire economy and its intersector complexes, sectors and regions. It should contain provisions for essential organizational-legal measures to resolve all these programs within the framework of a unified system of national economic planning. Its most important feature is its continuous, flexible nature.

With regard to the place occupied by this goal-oriented program within the system of prediction and planning, it should be organically written into the unified Comprehensive Program for Scientific and Technical Progress.

Thus, combining sector and territorial planning is an inseparable and integral part of the problem of improving the entire economic mechanism and bringing it in line with the requirements of the economy of a developed socialist society.

Each new stage in improving the economic mechanism also opens up new opportunities for closer coordination of sector and territorial planning, but at the same time also requires new forms and ways to achieve this coordination. The search for these ways and theoretical consideration of them and subsequent practical realization constitute an important national economic task.

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